HW#52: Composition of Functions as Expressions

Geometry – FORM A

Due Date: Wednesday, January 9th, 2013

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

**Failure to show work on all problems or use complete sentences will result in a LaSalle.**

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| 1. Let e(x)= *x2 +*  and  y(x)=  *x2 +* . Find (ey)(2).  *Step 1: y(x) =*  *y(2) =*  *Step 2: e(x) =*  *e(y(2)) =* | 2. Let f(x) = 5x – x and  g(x) = x + 8. Find g(f(-2)).  *Step 1: f(x) =*  *f(-2) =*  *Step 2: g(x) =*  *g(f(-2)) =* | | 3. Let f(x) = 2x – 6 and  g(x) = x+ 8.  a) Find g(f(-3))  *Step 1: f(x) =*  *f(-3)=*  *Step 2: g(x) =*  *g(f(-3)) =*  b) f(g(-3)).  *Step 1:*  *Step 2:* |
| 4. a. If g(x) = 2x – 5 and f(x) = x2 + 1, compute  fg(x).  *Step 1:*  *Step 2:*  b. If g(x) = 2x – 5 and f(x) = x2 + 1, compute  g f(x).  *Step 1:*  *Step 2:*  c. If g(x) = 2x – 5 and f(x) = x2 + 1, compute  g f(-3).  *Step 1:*  *Step 2:*  d. If g(x) = 2x – 5 and f(x) = x2 + 1, compute  g g(x).  *Step 1:*  *Step 2:* | | 5. a. Compute g(f(x)) if g(x) = 4x -2 and  f(x) = 3x + 4.  *Step 1:*  *Step 2:*  b. Compute f(g(x)) if g(x) = 4x -2 and  f(x) = 3x + 4.  *Step 1:*  *Step 2:*  c. Compute f(f(-4)) if f(x) = 3x + 4.  *Step 1:*  *Step 2:*  d. Compute g(f(x)) if g(x) = x2 -2x + 6 and  f(x) = 3x + 4. *This one is tricky! PUSH IT!!*  *Step 1: f(x) = \_\_\_\_\_\_\_\_\_ plug this expression in to the x-values in g(f(x))*  *Step 2: g(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *g(f(x)) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* | |
| 6.a. Factor:  ***check:***  ( )( )  ( )( )    b. Find the sum of the solutions to the equation:  1. factor  2. solve twice  3. add | | | |
| 7. a. Factor: (3x+5)(x-3)  b. Factor: (4x-5)(6x-7) | | 8. What is the value of  when x= 4 ?  P E MD AS | |